

# MERCK AND CO. INC.

Finance 438

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Date:3/15/2015

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## CIF Stock Recommendation Report (Spring 2015)

Company Name and Ticker: Merck and Co. Inc. (MRK)

### Section (A) Investment Summary

Recommendation Buy: Yes <b>No</b>		Target Price:	Stop-Loss Price:
Sector: Healthcare	Industry: Drug Manufacturers-Major	Market Cap (in Billions): \$163.95	# of Shrs. O/S (in Millions): \$2838.19
Current Price: \$57.75	52 WK Hi: \$63.62	52 WK Low: \$52.49	EBO Valuation: \$99.13
Morningstar (MS) Fair Value Est.: \$79	MS FV Uncertainty: Low	MS Consider Buying: \$55.30	MS Consider Selling: \$106.65
EPS (TTM): 4.10	EPS (FY1): 3.38	EPS (FY2): 3.81	MS Star Rating: AA
Next Fiscal Yr. End "Year": 2016 "Month": December	Last Fiscal Qtr. End: Dec 2014 Less Than 8 WK: Y <b>N</b>	If Less Than 8 WK, next Earnings Ann. Date: April 28, 2015	Analyst Consensus Recommendation: Outperform
Forward P/E: 15.16	Mean LT Growth: 4.79	PEG: 3.16	Beta: 0.34
% Inst. Ownership: 75.44%	Inst. Ownership- Net Buy: <b>Y</b> N	Short Interest Ratio: 2.60	Short as % of Float: 1%
<u>Ratio Analysis</u>	<u>Company</u>	<u>Industry</u>	<u>Sector</u>
P/E (TTM)	14.10	40.31	40.78
P/S (TTM)	3.88	5.34	40.42
P/B (MRQ)	3.37	6.42	6.29
P/CF (TTM)	8.80	30.99	330.30
Dividend Yield	3.12	1.33	1.29
Total Debt/Equity (MRQ)	38.44	4.88	6.98
Net Profit Margin (TTM)	28.25	11.45	7.34
ROA (TTM)	11.70	12.57	8.09
ROE (TTM)	24.22	17.40	17.04

<u>Investment Thesis</u>	<u>Summary</u>
<p>Pros</p> <ul style="list-style-type: none"> <li>• Institutional ownership is at 78.92% meaning that investors do like this company.</li> <li>• Reached all time high stock price in January.</li> </ul> <p>Cons</p> <ul style="list-style-type: none"> <li>• Mostly the entire consensus estimates trends are downward and the company has a routine of continuously negatively surprising.</li> <li>• Decreased positions in institutional ownership were about 40% of the overall investors. Institutional investors are losing faith in this company.</li> <li>• Investors have been adding Merck and Co. to their portfolios as short investment, suggesting future price falls.</li> <li>• Although fundamental analysis suggest the stock price is undervalued, recent gains in the sector have inflated prices.</li> <li>• Analysts have been hesitant to commit to Merck and Co. as a long investment.</li> <li>• Downward trend in stock price over the last three months after reaching all-time high in January.</li> </ul>	<p><b><u>Company Profile:</u></b> Merck and Co. is in a highly fragmented and competitive Healthcare sector making it difficult to create continuous growth and high returns.</p> <p><b><u>Fundamental Valuation:</u></b> After conducting a sensitivity analysis and adjusting the market return, the stock price of Merck and Co. was determined to be undervalued.</p> <p><b><u>Relative Valuation:</u></b> The values from the spreadsheet were a mixture of positive and negative things for the company. Their P/E was lower than its competitors. The PEG, P/B, P/S, and P/CF were all larger than the majority of its competitors.</p> <p><b><u>Revenue and Earnings Estimates:</u></b> There were more downward trends than upward trends for Merck &amp; Co. They usually negatively surprise analysts' estimates, but there were more up revisions than down.</p> <p><b><u>Analyst Recommendations:</u></b> As of recent, analysts have been hesitant to rate Merck and Co. as a buy and have suggested holding the stock based on volatility in the market.</p> <p><b><u>Institutional Ownership:</u></b> There was a net increase in the last 3 months in buyers which is a positive thing. Also the institutional ownership is at 78.92% which means that investors like this company. Decreased positions were about 40% of all investors which is negative.</p> <p><b><u>Short Interest:</u></b> Increasing short interest and average volume have been increasing simultaneously, allowing the day to cover ratio to appear enticing.</p>

	<p><b>Stock Price Chart:</b>  Merck and Co. have been unable to keep up with the pace of the Healthcare sector or S&amp;P 500 in short and long term views.</p>
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**Section B – Company Profile**

**B1.** Merck and Co. Incorporated, founded 1989 in New Jersey, is a pharmaceutical company that strives to provide healthcare solutions worldwide. Products offered include therapeutic and preventive agents to treat cardiovascular, type 2 diabetes, asthma, nasal allergy symptoms, allergic rhinitis, chronic hepatitis C virus, HIV-1 infection, fungal infections, intra-abdominal infections, hypertension, arthritis and pain, inflammatory, osteoporosis, male pattern hair loss, and fertility diseases. Merck and Co. Incorporated serves drug wholesalers and retailers, hospitals, government entities and agencies, physicians, physician distributors, veterinarians, distributors, and animal producers, as well as managed health care providers. Under the leadership of Kenneth Frazier, Merck and Co. Inc. has grown to 70,000 full time employees and expects to experience moderate growth in the near future.

<b>FY 2014</b>		<b>Revenue</b>	<b>EPS</b>
	Dec '14	10,482.00	2.535
	Sep '14	10,557.00	0.307
	Jun '14	10,934.00	0.68
	Mar '14	10,264.00	0.574
	<b>42,237.00</b>	<b>4.10</b>	

**B2. & B3.** As shown in Table 1, Merck and Co. Inc. have produced consistent revenue over the last 3 quarters and are historically known for beating estimates. Although revenue was down during the 2014 fiscal year, Merck and Co. was able to increase their earnings per share in relation previous years highlighted by an 11.4% surprise in March that offset a negative growth in sales

of -10.7%. Negative growth in sales has been a regular problem facing Merck and Co. Inc. following their announcement of \$10.7 Billion in earnings during 2014 and has provided reason for lower estimates regarding revenue and earnings in upcoming quarters. Currently, Merck and Co. are experiencing a growth rate of -6.3% but are expected to turn things around next year according the estimated 4.5% growth rate.

## Section C – Fundamental Evaluation

	Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
	Long-term EPS Growth Rate (Ltg)			0.05	0.05					
	Forecasted EPS	3.38	3.81	3.99	4.18					
	Beg. of year BV/Shr	17.14	20.42	24.11	27.98					
	Implied ROE		0.19	0.17	0.15					
ROE	(Beg. ROE, from EPS forecasts)	0.20	0.19	0.17	0.15	0.16	0.17	0.18	0.19	0.20
Abnormal ROE	(ROE-k)	0.16	0.15	0.13	0.12	0.12	0.13	0.14	0.15	0.16
growth rate for B	(1-POR)*(ROEt-1)	0.00	0.19	0.18	0.16	0.14	0.15	0.16	0.17	0.18
Compounded growth		1.00	1.19	1.41	1.63	1.87	2.16	2.51	2.94	3.48
growth*AROE		0.16	0.18	0.18	0.19	0.23	0.29	0.36	0.45	0.57
required rate (k)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Compound discount rate		1.03	1.07	1.11	1.14	1.18	1.22	1.27	1.31	1.36
div. payout rate (k)	0.03									
Add to P/B	PV(growth*AROE)	0.16	0.17	0.17	0.16	0.20	0.24	0.28	0.34	0.42
Cum P/B		1.16	1.33	1.49	1.66	1.85	2.09	2.38	2.72	3.14
Add: Perpetuity										
beyond current yr	(Assume this yr's AROE forever)	4.58	4.93	4.85	4.77	5.72	6.87	8.28	10.01	12.15
Total P/B	(P/B if we stop est. this period)	5.73	6.25	6.34	6.43	7.58	8.96	10.65	12.73	15.28
<b>Implied price</b>		<b>99.13</b>	<b>108.13</b>	<b>109.65</b>	<b>111.19</b>	<b>130.98</b>	<b>154.96</b>	<b>184.20</b>	<b>220.04</b>	<b>264.24</b>
Check:										
Beg. BV/Shr		17.14	20.42	24.11	27.98	32.03	36.97	43.02	50.44	59.62
Implied EPS		3.38	3.81	3.99	4.18	5.10	6.23	7.66	9.47	11.76
Implied EPS growth			0.13	0.05	0.05	0.22	0.22	0.23	0.24	0.24

**C1.** After inputting the required fields in the Fundamental Analysis template, the final decision to make regarded the long term growth period. Electing to choose the 4 year outlook was based on the general understanding of the Healthcare sector. An interesting component to the Healthcare sector is the high fragmentation of companies, the top 50 companies only account for 15% of sector revenue. Further, it is extremely difficult for companies in the Healthcare sector to identify growth opportunities and take advantage of them given the challenge to differentiate. Merck and Co. Inc. is currently trading at \$58.26 per share and is arguably undervalued according to the Fundamental Analysis. Based on the calculated implied price, the present value of future cash flows indicate a fair value stock price of \$74.42 per share. During the sensitivity analysis, it was determined that even the implied stock price might not be a true representation of the potential upside Merck and Co. has to offer. Initially, the expected market return was set to 8.5%. According to Goldman Sachs strategist David Kostin, the stock index will realize a return of 5% in 2015 (Business Insider). As a result of the adjustments inspired by Kostin, the implied price for Merck and Co. soared to \$99.13. Although it is unlikely that investors of Merck and Co. will realize a 50% return on investment, the various implied stock prices serve as positive indicators concerning the direction of the stock. Given the current volatility surrounding the market in addition to an appreciating dollar, it is fair to expect modest returns across the board. Ultimately, the market return of 5% appears more realistic and compliments the defensive characteristics of the Healthcare sector.

## Section D - Relative Valuation

		Mean FY2											
Ticker	Name	Mkt Cap	Current Price	Earnings Estimate (next fiscal year)	Forward P/E	Mean LT Growth Rate	PEG	P/B (MRQ)	ROE 5 yr ave	Value Ratio	P/S TTM	P/CF TTM	
1	NVS	Novartis AG	\$ 270,422.50	\$ 100.40	\$ 5.55	18.09	8.20%	2.21	3.40	14.31%	0.24	2.86	14.52
2	ABT	Abbott Lab	\$ 70,589.98	\$ 46.78	\$ 2.41	19.41	9.16%	2.12	3.28	7.99%	0.41	5.44	33.71
3	PFE	Pfizer	\$ 212,025.70	\$ 34.53	\$ 2.23	15.48	2.17%	7.14	2.97	11.17%	0.27	6.45	58.69
4	SNY	Sanofi SA	\$ 132,162.80	\$ 49.97	\$ 3.19	15.66	5.65%	2.77	2.14	8.79%	0.24	3.23	20.39
	MRK	Merck & Co. Inc.	\$ 163,905.59	\$ 57.75	\$ 3.81	15.16	4.79%	3.16	3.37	11.15%	0.30	9.68	43.87
Implied Price based on:					P/E (forward)			PEG	P/B		Value	P/S	P/CF
1	NVS	Novartis AG				\$68.92		\$40.26	\$58.26		\$45.40	\$17.06	\$19.11
2	ABT	Abbott Lab				\$73.96		\$38.67	\$56.21		\$78.44	\$32.45	\$44.38
3	PFE	Pfizer				\$59.00		\$130.22	\$50.90		\$50.80	\$38.48	\$77.26
4	SNY	Sanofi SA				\$59.68		\$50.60	\$36.67		\$46.52	\$19.27	\$26.84
	High					\$73.96		\$130.22	\$58.26		\$78.44	\$38.48	\$77.26
	Low					\$59.00		\$38.67	\$36.67		\$45.40	\$17.06	\$19.11
	Mean					\$65.39		\$64.94	\$50.51		\$55.29	\$26.82	\$41.90

**Novartis**→A world wide drug manufacturer that researches, develops, manufactures, and markets prescriptions that are therapeutic medicines. They compete with Merck & Co. in researching, developing, and manufacturing drugs.

**Abbott Laboratories**→ They are a worldwide manufacturer and marketer of healthcare products. They compete with Merck & Co. in the Established Pharmaceutical Products where they mostly offer branded generic drugs.

**Pfizer**→ This is a biopharmaceutical company that develops and sells health care products all over the world. They compete with Merck & Co. with researching and selling drugs.

**Sanofi**→ This is a French international pharmaceutical company. They compete with Merck & Co. in prescription sales. They are the world's fifth largest company in prescription sales.

**D1.** Merck & Co. has the smallest forward P/E ratio out of all of its competitors. This means that Merck & Co's future earnings are expected to be lower and riskier than its competitors. This is not always a bad thing because sometimes when the P/E ratio is lower it means that investors are willing to spend more in the stock. The PEG ratio for Merck & Co. is at 3.16 which is above all competitors' except Pfizer who has a ratio of 7.14. This can be negative for Merck & Co. because a higher PEG ratio means that it is more expensive to grow the company. The reason Pfizer has such a high PEG ratio is due to the fact that its LT growth rate is so small. MRK has the second largest P/B ratio at 3.37 coming after Novartis AG which is 3.40. This is a good thing for the company because it means that investors expect more value to come about for Merck & Co. than its competitors. The P/S ratio for MRK exceeds all other competitors at a value of 9.68. Because this ratio surpasses all its competitors it could mean that the stock is overvalued, however, this ratio is best used for companies that are in their early stage and not profitable yet so this value is not as useful for Merck & Co. The P/CF ratios range from about 20 to 58 with Merck & Co. having the second highest ratio at 43.87. This is a positive thing for Merck & Co. because it means investors are willing to value the stock more and may think that it is going to grow more than the majority of its competitors.

**D2.** Sanofi and Pfizer have forward P/E prices that are within MRK's 52-week range and Abbott Laboratories and Novartis have prices above MRK's 52-week range. The mean price for the forward P/E is above the 52-week range of MRK as well. The implied price based on Novartis and the PEG ratio was below MRK's 52-week range and Pfizer's was way above the 52-week range due to the low LT growth rate. The mean for the PEG price is just above Merck & Co.'s current price. Pfizer and Sanofi create implied prices using the P/B ratios that are just below MRK's 52-week range. The implied price using P/S and P/CF ratios are all significantly below MRK's 52-week range except for Pfizer using P/CF which is above the 52-week range. These prices using P/CF and P/S are well below the average and should be taken out of consideration.

**D3.** Our values seem very similar to Morningstar Direct except for when P/S and P/CF are used. They had very different values for these, but we think this is okay due to the fact that both these values are more used for businesses in their early stages and that are not very profitable yet. We consider the other valuations to be better depictions.

## Section E - Revenue and Earnings Estimates

### *"Historical Surprises" Table from Reuters*

Estimates vs Actual	Estimate	Actual	Difference	Surprise %
<b>SALES (in millions)</b>				
Quarter Ending Dec-14	10,498.40	10,482.00	16.42	0.16
Quarter Ending Sep-14	10,664.10	10,557.00	107.05	1.00
Quarter Ending Jun-14	10,602.20	10,934.00	331.77	— 3.13
Quarter Ending Mar-14	10,441.10	10,264.00	177.14	1.70
Quarter Ending Dec-13	11,361.70	11,319.00	42.66	0.38
<b>Earnings (per share)</b>				
Quarter Ending Dec-14	0.85	0.87	0.02	1.77
Quarter Ending Sep-14	0.88	0.90	0.02	2.39
Quarter Ending Jun-14	0.81	0.85	0.04	4.96
Quarter Ending Mar-14	0.79	0.88	0.09	11.97
Quarter Ending Dec-13	0.89	0.88	0.01	0.77

**E1.** For sales Merck & Co. has a pattern of surprising the market with actual numbers that are below analysts' estimates. The one time they surprised estimates positively was the quarter ending in June 2014. For Earnings they have a pattern of surprising analysts' estimates with actual earnings greater than estimates except the quarter ending in December 2013 where they were down 0.77%. The surprises were more notable for earnings, which is good because those were all the positive surprises. According to the stock chart, stock prices barely reacted to the surprises. There is not any notable change in the price when any of the quarter endings were released. It has just been steadily increasing and an occasional slight drop in price.

E2.

**“Consensus Estimates Analysis” Table from Reuters**

	# of Estimates	Mean	High	Low	1 Year Ago
<b>SALES (in millions)</b>					
Quarter Ending Mar-15	11	9,164.25	9,645.00	8,785.00	10,251.00
Quarter Ending Jun-15	11	9,806.92	10,200.00	9,370.00	10,629.00
Year Ending Dec-15	16	39,594.20	40,326.00	38,325.00	43,043.70
Year Ending Dec-16	16	41,366.70	42,844.00	39,850.00	43,923.00
<b>Earnings (per share)</b>					
Quarter Ending Mar-15	13	0.75	0.82	0.67	0.84
Quarter Ending Jun-15	13	0.79	0.86	0.74	0.89
Year Ending Dec-15	19	3.38	3.48	3.28	3.70
Year Ending Dec-16	18	3.81	4.06	3.45	3.97
LT Growth Rate (%)	5	4.79	8.10	-1.84	1.77

<b>Sales</b>	
Qtr Ending Mar-15	5.25%
Qtr Ending Jun-15	4.01%
Year Ending Dec-15	1.85%
Year Ending Dec-16	3.57%
<b>Earnings</b>	
Qtr Ending Mar-15	9.33%
Qtr Ending Jun-15	8.86%
Year Ending Dec-15	2.96%
Year Ending Dec-16	6.56%
LT Growth Rate	69.10%

The divergent is more notable for FY2 for both sales and earnings and the earnings percent differences are all larger than sales. And divergent is more notable for all current quarters except for the negative difference in sales where the out quarter was more notable.

<b>Sales</b>	
Qtr Ending Mar-15	4.14%
Qtr Ending Jun-15	4.46%
Year Ending Dec-15	3.21%
Year Ending Dec-16	3.67%
<b>Earnings</b>	
Qtr Ending Mar-15	10.67%
Qtr Ending Jun-15	6.33%

Year Ending Dec-15	2.96%
Year Ending Dec-16	9.45%
LT Growth Rate	139.29%

The number of analysts providing LT growth rate is 5, which is significantly lower than the number of analysts providing revenue and earnings estimates.

### E3.

#### ***"Consensus Estimates Trend" Table from Reuters***

	<b>Current</b>	<b>1 Week Ago</b>	<b>1 Month Ago</b>	<b>2 Month Ago</b>	<b>1 Year Ago</b>
<b>SALES (in millions)</b>					
Quarter Ending Mar-15	9,164.25	9,164.25	9,180.60	9,341.81	10,251.00
Quarter Ending Jun-15	9,806.92	9,806.92	9,823.73	9,860.99	10,629.00
Year Ending Dec-15	39,594.20	39,594.20	39,604.20	40,472.50	43,043.70
Year Ending Dec-16	41,366.70	41,366.70	41,290.20	42,075.30	43,923.00
<b>Earnings (per share)</b>					
Quarter Ending Mar-15	0.75	0.75	0.75	0.75	0.84
Quarter Ending Jun-15	0.79	0.79	0.79	0.81	0.89
Year Ending Dec-15	3.38	3.38	3.39	3.51	3.70
Year Ending Dec-16	3.81	3.81	3.82	3.93	3.97

Consensus estimates are mostly trending downward. They went up once in sales with the year ending in December 2015 from 1 month ago to 1 week ago. Under earnings for the quarter ending in March 2015 the consensus estimates pretty much stayed the same.

For revenue the trend is more notable for the near quarter and for earnings it is more notable for the out quarter. For both revenue and earnings the trend is more notable for FY1 over FY2 and overall the revenue trends are more drastic than earnings.

**E4.**

**“Estimates Revisions Summary” Table from Reuters**

Number Of Revisions:	Last Week		Last 4 Weeks	
	Up	Down	Up	Down
<b>Revenue</b>				
Quarter Ending Mar-15	0	0	1	0
Quarter Ending Jun-15	0	0	1	0
Year Ending Dec-15	0	0	2	2
Year Ending Dec-16	0	0	2	3
<b>Earnings</b>				
Quarter Ending Mar-15	0	0	1	0
Quarter Ending Jun-15	0	0	1	0
Year Ending Dec-15	0	0	2	0
Year Ending Dec-16	0	0	1	2

**(1) Note whether there are more up or down revisions**

There are more up revisions that all take place in the last 4 weeks. There are 11 up revisions compared to 7 down revisions.

**(2) Are the revisions predominantly one directional?**

The revisions are not just one directional, but a mixture of up and down.

**(3) Any notable difference last week versus last four weeks, revenue versus earnings?**

There were no revisions in the last week and the same amount of up revisions for revenues and earnings. Earnings had 2 more down revisions than revenues.

**E5.**

**“Consensus Earnings Revisions” from CNBC**

Revision Date	Revision Type	Revision Up/Down	Current	Previous	% Change	# of Analysts Reporting
Most recent revision date						
3/5/2015	Down	1/2	\$0.749	\$0.751	-0.27	12

Earliest revision date in the last month						
2/27/2015	Down	1/1	\$0.751	\$0.758	-0.92	12

**1) Make note of the company's last earnings reporting date, and next earnings reporting date.**

Last earnings report date: February 4, 2015

Next earnings report date: April 28, 2015

**2) Review revisions day by day, and comment on whether they tend to be clustered, and if clustered, were they near earnings reporting date?**

In the last month there were only two revisions that were both down revisions. The earnings report was released on February 4<sup>th</sup> and neither of these were around then. They are both about a month apart.

**3) Were there any greater than 10% consensus revisions? What is the maximum % consensus revision?**

There were no revisions greater than 10%. Both revisions were negative and -0.92% was the maximum consensus revision.

**4) Observe stock price chart, how did the stock trade around dates of greater than 10% consensus revisions?**

There were no greater than 10% consensus revisions so this is not applicable.

**5) Other observations worth noting?**

There were 12 analysts reporting these revisions, which is a decent number making these revisions notable.

**Section F**

Analyst Recommendations and Revisions				
1-5 Linear Scale	Current	1 Month Ago	2 Month Ago	3 Month Ago
(1) BUY	4	4	5	4
(2) OUTPERFORM	3	3	4	4
(3) HOLD	12	12	12	12
(4) UNDERPERFORM	0	0	0	0
(5) SELL	0	0	0	0
No Opinion	0	0	0	0
Mean Rating	2.42	2.42	2.33	2.4

**F1 & F2.** Over the last 3 months, analysts have remained relatively firm on their recommendations for Merck and Co. Inc. In fact, the only trend that is available can be seen in the slight rise in Mean Rating to 2.42 after dropping to 2.33 2 months ago. Based on the recommendation report, it is apparent that analysts are more bullish than bearish but hesitant in their decision. Although no analyst rated Merck and Co. Inc. as a Sell (5), the

majority of analysts suggest holding the stock indicating a lack of assurance in the future of the stock. Within the last month, no revisions have been made by analysts as many might be waiting for Merck and Co. to announce their earnings from the recent quarter. It is worth noting that Smart Consensus lists Merck and Co. as a stock to avoid updated as of March 20<sup>th</sup>, 2015.

## Section G - Institutional Ownership

Section 1				
Ownership Activity	# of Holders	% Beg. Holders	Shares	% Shares
Shares Outstanding			2,838,108,661	100.00%
# of Holders; Total Shares Held/% Shares	2,131	104.41%	2,141,069,174	75.44%
# New Positions	156	7.64%		
# Closed Positions	66	3.23%		
# Increased Positions	883	43.26%		
# Decreased Positions	797	39.05%		
Beg. Total Inst. Positions	2,041	100.00%	2,149,820,305	75.75%
# Net Buyers; 3 Mo. Net Chg	86	52.56%	-8,751,131	-0.31%

Section 2		Section 3		
Ownership Information	% Outstanding	> 5% Ownership		
% Institutional Ownership	78.92	Holder Name	% Outstanding	Report Date
Top 10 Institutions % Ownership	30.73%	Capital World Investors	6.02%	12/31/2014
Mutual Fund % Ownership	43.90%	Wellington Management Company	5.52%	12/31/2014
		Vanguard Group, Inc. (The)	5.49%	12/31/2014
		State Street Corporation	4.51%	12/31/2014

- There has been a net increases in buyers of 86 in the last 3 months. This is not a substantial amount but should still be thought of in a positive way and taken into consideration.
- The stock has institutional ownership of 78.92% which is a positive thing for the company. Anything above 60% is considered a positive aspect because it means that professional investors like the stock and are willing to invest in it.
- The extent of the (>5%) owners is 21.54% held by:
  - Capital World Investors → Mutual Fund
  - Wellington Management Company, LLC → Mutual Fund
  - Vanguard Group, Inc. → Mutual Fund
  - State Street Corporation → Hedge Fund

## Section H – Short Interest

Settlement Date	Short Interest	Avg Daily Share Volume	Days To Cover
3/13/2015	28,541,929	11,701,192	2.439233
2/27/2015	25,502,024	10,163,407	2.509200
2/13/2015	22,661,285	10,786,086	2.100974
1/30/2015	22,587,243	9,301,284	2.428401
1/15/2015	28,596,967	13,876,021	2.060891
12/31/2014	28,261,436	9,749,442	2.898775
12/15/2014	28,705,469	11,073,339	2.592305
11/28/2014	20,951,858	8,094,441	2.588426
11/14/2014	22,544,433	10,651,991	2.116453
10/31/2014	22,814,476	15,172,129	1.503710
10/15/2014	24,170,582	10,838,214	2.230126
9/30/2014	23,065,201	9,824,549	2.347711
9/15/2014	24,454,599	8,434,560	2.899333
8/29/2014	26,803,576	6,865,346	3.904184
8/15/2014	27,776,659	8,604,040	3.228328
7/31/2014	33,501,461	7,790,970	4.300037
7/15/2014	33,982,755	7,572,547	4.487625
6/30/2014	34,275,172	9,455,791	3.624781
6/13/2014	33,266,511	8,013,666	4.151223
5/30/2014	29,199,196	7,850,806	3.719261
5/15/2014	30,708,772	11,745,934	2.614417
4/30/2014	30,456,357	10,600,901	2.872997
4/15/2014	32,443,294	11,401,160	2.845613
3/31/2014	28,708,787	12,315,810	2.331051
3/14/2014	29,707,978	10,111,208	2.938124

Table 1 MRK

Settlement Date	Short Interest	Avg Daily Share Volume	Days To Cover
3/13/2015	2,468,761	1,689,793	1.460984
2/27/2015	2,323,451	1,170,733	1.984612
2/13/2015	2,495,727	2,243,047	1.112650
1/30/2015	1,979,487	3,567,984	1.000000
1/15/2015	1,651,309	2,486,092	1.000000
12/31/2014	1,440,218	1,199,140	1.201042
12/15/2014	1,232,018	1,326,733	1.000000
11/28/2014	1,125,884	1,031,703	1.091287
11/14/2014	1,235,894	972,639	1.270661
10/31/2014	1,164,584	1,366,714	1.000000
10/15/2014	1,503,328	1,689,483	1.000000
9/30/2014	2,230,271	1,531,579	1.456191
9/15/2014	2,015,190	1,603,842	1.256477
8/29/2014	1,732,269	974,792	1.777065
8/15/2014	2,041,672	991,544	2.059084
7/31/2014	1,585,127	1,099,795	1.441293
7/15/2014	2,099,777	930,159	2.257439
6/30/2014	2,565,914	941,286	2.725966
6/13/2014	2,861,806	1,419,622	2.015893
5/30/2014	3,704,683	2,295,946	1.613576
5/15/2014	3,896,983	2,056,279	1.895163
4/30/2014	2,796,540	1,820,948	1.535760
4/15/2014	2,641,561	1,772,244	1.490518
3/31/2014	3,149,302	1,336,664	2.356091
3/14/2014	4,858,796	1,611,886	3.014355

Table 2 NVS

<b>Avg Vol (3 month)</b>	<b>Avg Vol (10 day)</b>	<b>Shares Outstanding</b>	<b>Float</b>
11,298,700	14,037,700	2.84B	2.83B
<b>Shares Short (as of Mar 13, 2015)</b>	<b>Short Ratio (Include as of date)</b>	<b>Short % of Float (as of Mar 13, 2015)</b>	<b>Shares Short (Prior Month)</b>
28.54M	2.60	1.00%	25.50M

Settlement Date	Short Interest	Avg Daily Share Volume	Days To Cover
3/13/2015	156,560,623	27,948,459	5.601762
2/27/2015	172,454,965	24,604,581	7.009059
2/13/2015	207,352,263	38,390,895	5.401079
1/30/2015	67,441,243	32,667,585	2.064470
1/15/2015	70,193,273	27,162,870	2.584163
12/31/2014	65,446,879	21,860,827	2.993797
12/15/2014	65,503,641	26,643,912	2.458484
11/28/2014	65,313,869	23,604,590	2.766999
11/14/2014	68,812,840	19,424,209	3.542633
10/31/2014	63,965,794	30,396,559	2.104376
10/15/2014	62,385,673	28,393,550	2.197178
9/30/2014	59,973,021	25,040,234	2.395066
9/15/2014	64,144,682	19,867,261	3.228663
8/29/2014	69,499,794	19,226,362	3.614818
8/15/2014	69,502,226	24,441,395	2.843628
7/31/2014	72,619,112	26,835,170	2.706117
7/15/2014	60,916,961	20,950,983	2.907594
6/30/2014	65,672,029	24,093,960	2.725664
6/13/2014	56,730,101	21,887,882	2.591850
5/30/2014	56,694,370	26,841,182	2.112216
5/15/2014	59,856,772	38,050,597	1.573084
4/30/2014	52,494,773	32,409,762	1.619721
4/15/2014	55,395,129	31,617,055	1.752065
3/31/2014	53,502,892	28,686,898	1.865064
3/14/2014	54,350,627	25,640,047	2.119755

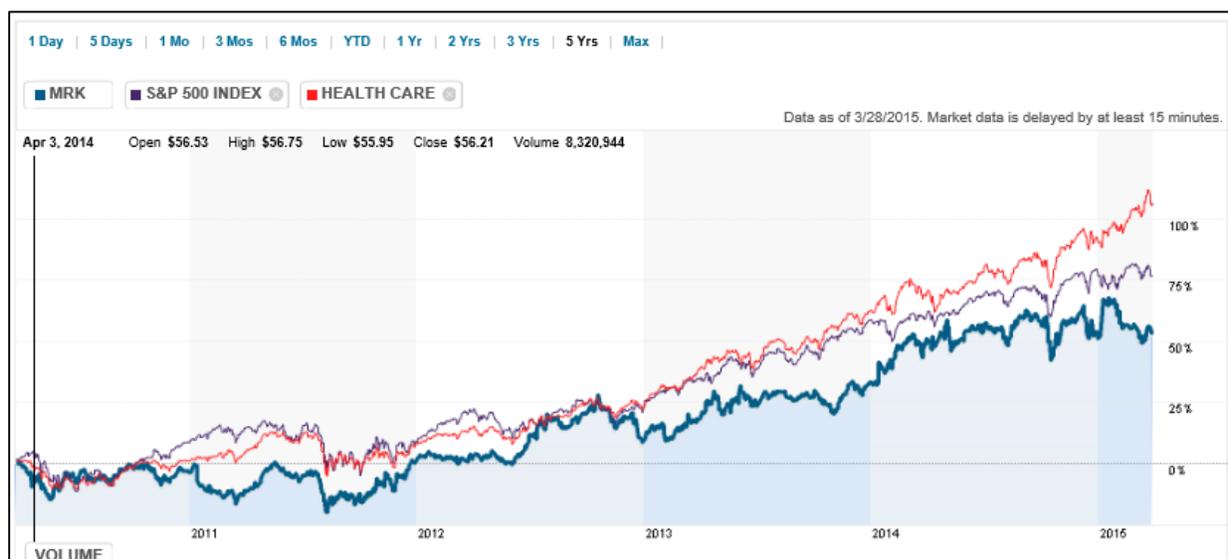
Table 3 PFE

**H1.** Based on the short interest table shown above, it is apparent that investors are avoiding holding Merck and Co. in a short position in their portfolio. Given that investors that hold stocks in a short position are expecting the price of the stock to fall, low short interest insinuates a bullish outlook concerning stock price. Over the last year, Merck and Co. had a peak in short interest at a ratio of roughly 4.5 Days to Cover in July. Currently, Merck and Co. has a higher short interest than its competitor Novartis but an extremely lower short interest than Pfizer.

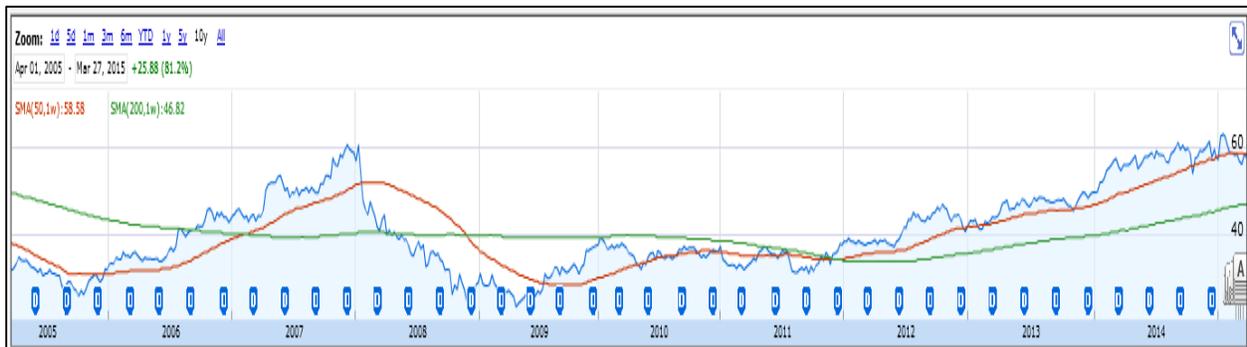
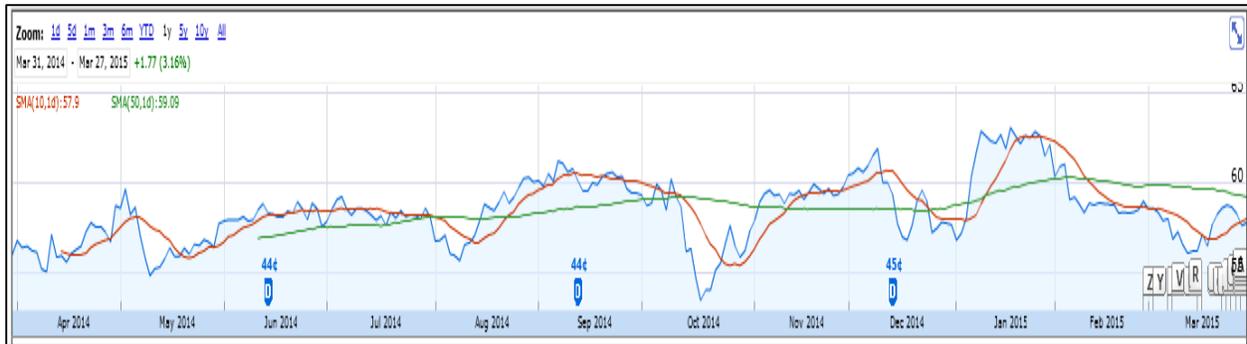
**H2.** Short interest is often backed by earnings announcements, and Merck and Co. recently beat EPS estimates last quarter surprising analyst predictions by 11%. Merck and Co, will make their next announcement April 28<sup>th</sup> and are expected to improve on their most recently reported numbers. Based on the current trend, Merck and Co. should be able to sustain a low Days to Cover ratio regarding their short interest, however, their ability to do so is directly correlated with increasing Short Interest and Daily Share Volume. As those numbers continue to grow simultaneously, their Days to Cover ratio will remain relatively stable but not reflect the overall increase in investors holding Merck and Co. in a short position.

### Section I – Stock Price and Technical Indicators





11. As previously mentioned, the Healthcare Sector is a highly fragmented sector that often inhibits companies within it from realizing growth or high abnormal returns. Although Merck and Co. has been able to steadily increase the value of their stock overtime, the growth has been extremely gradual and unable to keep pace with the sector as a whole. It is less surprising that the Healthcare sector has underperformed in comparison to the S&P 500 given that it is in fact a defensive sector that is able to offer constant returns through various economic phases. Since there is little volatility in the Healthcare sector, investors typically pick Healthcare stocks as value stocks to that carry little risk for their portfolio. Over the last 3 months, the stock price for Merck and Co. has been trending in a negative direction since reaching an all-time high in January.



**12.** In analyzing the moving averages represented in the graphs above, there is a couple trends that need to be acknowledged. First, it is clear that when the moving average is increasing and the stock price is above the line, there is an upward trend. On the other hand, a downward sloping moving average with a stock price located below the line suggests the price will continue to fall. Although these trends are helpful in confirming investment decisions, the crossing of moving averages is even more crucial. When the moving average lines have intersected each other investors must recognize this as a trend reversal. Merck and Co. recently experienced a trend reversal shown in their short term technical indicators that was accurate in predicting the fall in stock price. This reversal is much more difficult to see in the long term indicator since the trailing averages include much more data. Regardless, it appears that Merck and Co. might experience continued struggles until the stock price surpasses the SMA's.